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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/658,694

09/08/2000

Haining Wang

3641

7590

01/25/2005

Patent Department
Mitsubishi Electric Information Technology
Center America Inc
201 Broadway
Cambridge, MA 02139

EXAMINER

DUONG, DUC T

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/658,694	Applicant(s) WANG ET AL.	
	Examiner Duc T. Duong	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-3 and 13 is/are rejected.
 7) ☒ Claim(s) 4 and 6-12 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the amendment filed on December 20, 2004, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Su et al (U.S. Patent 6,625,161 B1) in view of Bergamasco et al (U.S. Patent 6,675,220 B1).

Regarding to claim 1, Su discloses a method for scheduling packets in a router 17 of a packet-switched network having a plurality of service classes (Fig. 2 col. 4 lines 26-32, the traffic aggregates read on the service classes), the router including one queue 117 for each service class (Fig. 2 col. 4 lines 36-39), each queue storing packets to be transmitted according to the associated service class (Fig. 2 col. 4 lines 39-46), comprising measuring an average queue length for a particular queues (Fig. 3 col. 5 lines 11-22) and allocating bandwidth (reassign communication channels 115a-c) to each of the plurality of service classes according to the average queue length (Fig. 3 col. 5 lines 29-34).

Su fails to teach that measuring is performed every time one packet is stored in the particular queue.

However, Bergamasco discloses a technique for managing queues, wherein an average queue size is calculated when a packet is received (Fig. 4 col. 5 lines 35-37).

Thus, it would have been obvious to a person of ordinary skill in the art to employ the technique for managing queues as taught by Bergamasco in Su's system to reduce the likelihood of queue overflow.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su and Bergamasco in view of Fan et al (U.S. Patent 6,324,165 B1).

Regarding to claim 2, Su and Bergamasco disclose all the limitations with respect to claim 1, and Su further discloses assigning a priority to each queue 201-207 with queue 201 (premium service class) having the highest priority (Fig. 4 col. 6 lines 53-65). But, Su and Bergamasco fails to teach the plurality of services classes include an assured service and a best-effort service. However, Fan discloses a queuing system comprising buffers 32 serving various classes, wherein the various classes include VBR (assured service), ABR, and UBR (either ABR or UBR read on best-effort service), see Fig. 3 col. 6 lines 60-66). Thus, it would have been obvious to a person of ordinary skill in the art to employ buffers serving an assured service and a best-effort service as taught by Fan in Su and Bergamasco's system for supporting applications with widely different traffic characteristics and quality of service requirements.

5. Claims 3 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Su and Bergamasco in view of Silberschatz et al (U.S. Patent 6,556,578 B1).

Regarding to claims 3 and 13, Su and Bergamasco disclose all the limitations with respect to claim 1, except for the average queue length is an exponential weighted

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moving average. However, Silberschatz discloses a method for managing a buffer pool containing a plurality of queues, wherein the measure of an average queue length is determined using an exponential weighted moving average (col. 2 lines 66-67). Thus, it would have been obvious to a person of ordinary skill in the art to employ an exponential weighted moving average as taught by Silberschatz in Su's system to allow the most recently collected data to have more influence on the average than older ones.

Allowable Subject Matter

6. Claims 4-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 571-272-3122. The examiner can normally be reached on M-Th (9:00 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DD
DD



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600